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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Larry W. Fullerton

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EXAMINER

NGUYEN, DUNG X

ART UNIT

PAPER NUMBER

2611

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Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	09/811,326		FULLERTON ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Dung X. Nguyen		2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 November 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 15 - 25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15- 25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Response to Arguments***

1. Applicant's arguments filed on November 10, 2005 have been fully considered and persuasive. However, for further consideration, a new ground(s) of rejection is made.

***Claim Objections***

2. Claim 25 is objected under 37 CFR 1.75 as being a substantial duplicate of claim 17. When two claims in an application are duplicated or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

*A person shall be entitled to a patent unless –*

*(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.*

*(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.*

4. **Claims 15, 17, 20, 22, and 25 are rejected** under 35 U.S.C. 102(b) as being anticipated by Barnes et al. (US patent application # 2002/0175850 A1).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(b). This rejection under 35 U.S.C. 102(b) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

**Regarding claim 15**, Barnes et al discloses (figure 5, 10 – 12, 14) a method of receiving using a radio-frequency (RF) apparatus, comprising:

- Generating a receiving a template signal (514, 528 of figure 5) wherein generating the receiving the template signal (306 of figure 3) comprises inherently convoluting a template signal with a code sequence elements, each of code sequence elements inherent having a timing component and an amplitude component corresponding to the timing component and wherein the set of code sequence element is substantially a replica of a code sequence used to produce a received pulse signal (paragraph 0071, lines 1-4; paragraph # 0077; line 7; also see paragraph # 0104, particular lines 15 – 17);
- Correlating (510 of figure 5) the receiving template signal with the received pulse signal
- Decoded a detected signal (532, 534, 536, 538 in figure 5), wherein the detected signal produced a correlating the receiving template signal with the received pulse signal (paragraph # 0105).

Regarding claims 17 and 25, Barnes et al. discloses a method of transmitting using a radio frequency (RF) apparatus, comprising:

- Generating a first pulse signal (figure 1A through 1D);
- Generating an impulse/pulse train from the pulse signal (422 in figure 4), wherein generating the impulse/pulse train comprises inherently convoluting the first pulse signal with a first set of the code sequence elements. Each of the first set of code sequence elements having a timing component and an amplitude component

corresponding to the timing component (408, 412 of figure 4; paragraph # 0071, lines 1 – 4; paragraph 0100);

- Transmitting the pulse/impulse train (424 in figure 4);
- Receiving a composite signal (504, 508 in figure 5), wherein the composite signal comprises the pulse/impulse train and at least one multipath signal (figure 3B);
- Generating a receiving template signal (306 in figure 3A), wherein generating the receiving template signal comprises inherently convoluting a template signal with a second set of code sequence elements, each of the second set of code sequence elements having a timing component and a an amplitude component corresponding to the timing component (paragraph # 0071, lines 1 – 4; paragraph # 0077, line 7; also see paragraph # @ 0104, particulal lines 15 – 17);
- Correlating (510 in figure 5) the receiving template signal with the composite signal to produce a detected signal; and
- Decoded the detected data (532, 534, 536, 538 of figure 5; paragraph # 0105).

**Regarding claim 20**, claim 20 is the corresponding apparatus claim 15, and is therefore rejected for the same rationale applied to claim 15.

Regarding claim 22, claim 22 is the corresponding apparatus claim 15, and is therefore rejected for the same rationale applied to claim 17.

.5. **Claims 15, 17, 20, 22, and 25 are rejected** under 35 U.S.C. 102(b) as being anticipated by Fullerton et al. (US patent # 5,9650,031).

**Regarding claim 15**, Fullerton et al discloses a method of receiving using a radio-frequency (RF) apparatus, comprising:

- Generating a receiving a template signal (1420 in figure 14) wherein generating the receiving the template signal (figure 5C) comprises inherently convoluting a template signal with a code sequence elements, each of code sequence elements inherent having a timing component and an amplitude component corresponding to the timing component and wherein the set of code sequence element is substantially a replica of

a code sequence used to produce a received pulse signal (column 15, lines 39 – 41; column 16, lines 57 - 60);

- Correlating (1408 in figure 14) the receiving template signal with the received pulse signal; and
- Decoded a detected signal (1424 in figure 14), wherein the detected signal produced a correlating the receiving template signal with the received pulse signal (paragraph # 0105).

**Regarding claims 17 and 25,** Fullerton et al. discloses a method of transmitting using a radio frequency (RF) apparatus, comprising:

- Generating a first pulse signal (figure 1A);
- Generating an impulse/pulse train from the pulse signal (1006, 1008 in figure 11), wherein generating the impulse/pulse train comprises inherently convoluting the first pulse signal with a first set of the code sequence elements, each of the first set of code sequence elements having a timing component and an amplitude component corresponding to the timing component (column 8, lines 6 - 9);
- Transmitting the pulse/impulse train (1030 in figure 11);
- Receiving a composite signal (1404 in figure 14), wherein the composite signal comprises the pulse/impulse train and at least one multipath signal (figure 7A);
- Generating a receiving template signal (figure 5C; 1420 in figure 14), wherein generating the receiving template signal comprises inherently convoluting a template signal with a second set of code sequence elements, each of the second set of code sequence elements having a timing component and a an amplitude component corresponding to the timing component (column 15, lines 39 – 41; column 16, lines 57 - 60);
- Correlating (1408 in figure 14) the receiving template signal with the composite signal to produce a detected signal; and
- Decoded the detected data (1424 of figure 14).

**Regarding claim 20**, claim 20 is the corresponding apparatus claim 15, and is therefore rejected for the same rationale applied to claim 15.

**Regarding claim 22**, claim 22 is the corresponding apparatus claim 25, and is therefore rejected for the same rationale applied to claim 25.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

*(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.*

7. **Claims 16, 18, 19, 21, 23, and 24 are rejected** under 35 U.S.C. 103(a) as being unpatentable over Fullerton et al. (US patent # 5,960,031)), and further in view of Ishikawa et al. (US patent # 5,974,082

Fullerton et al. disclose the claim subject matter (see the rationale applied to claims 15, 17, 20, 22, and 25 above) including the use of pseudorandom (PN) code as the code sequence (column 15, lines 39 – 41; column 16, lines 57 – 60), but do not specify the PN code sequence is a Barker sequence. However, it is well known that the Barker sequence has a sharp auto-correlation function, which make it easier to track or acquire a signal. Ishikawa et al. teaches using a Barker sequence as the PN sequence (column 4, lines 49 – 50). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use a Barker sequence because of its sharp auto-correlation function.

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***Contact Information***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung X. Nguyen whose telephone number is (571) 272-3010. The examiner can normally be reached on Monday through Friday from 8:00 AM to 17:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Fan, Chieh M. can be reached on (571) 272-3042. The fax phone numbers for this group is (571) 273-3021.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

DXN

September 01, 2006



**CHIEH M. FAN  
SUPERVISORY PATENT EXAMINER**